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ABSTRACT

This newsletter contains two articles on teacher use of educational technology. The first article, "Online Learning for Teachers," (Stephen G. Barkley) explains that online learning has the ability to multiply both the effectiveness and efficiency of traditional onsite training by eliminating the need for travel. It describes the five components of learning that are the foundation of effective professional development (knowledge acquisition, modeling, practice, observation, and coaching) and discusses the blending of online and onsite learning. Finally, it examines the pros and cons of online learning (e.g., teachers can study and learn at any time, though the practice, observation, and coaching components are better done in the real world of onsite training). The second article, "Counterpoint: Why Teachers Don't Use Technology," (Larry Cuban) explains that out of every 10 U.S. teachers, fewer than 2 are serious users of computers and other information technology in the classroom. Five possible reasons for this include contradictory advice from experts, intractable working conditions, demands from others, inherent unreliability of technology (without technical support), and disrespect for teachers' opinions. A sidebar describes what to look for in online curricula. (SM)

Online Learning for Teachers

Rebecca J. Kesner, Ed.

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SEMINAR

Online Learning for Teachers

Stephen G. Barkley

It's been said that online learning is like the microwave oven. When it first appeared, people thought it would totally replace gas and electric ovens. But then they found that it had limitations; it didn't brown things properly and it made some foods mushy. It was only after people discovered that the microwave oven was great for warming up leftovers, making popcorn, or heating up a cup of coffee that it became a staple in kitchens and work sites across the country.

In similar fashion, the advent of online learning excited people about its many possibilities, particularly as a practical and cost-effective way to provide continuing education for teachers. But just as the microwave oven has found an appropriate place alongside the appliance it was supposed to replace, so we find that online and on-site learning both have a place in teachers' professional development.

Online learning has unique strengths and weaknesses. Its greatest strength is its ability to multiply both the effectiveness and efficiency of traditional on-site training by eliminating the need for travel, while reaching

individual teachers at times and at a pace that suits their schedules.

However, teaching remains a performance art and online learning cannot replicate the hands-on, one-on-one instruction possible in on-site training.

Five Components of Learning

The ideal solution is to blend the best characteristics of online and on-site learning in providing the greatest support for the five components of learning that are the foundation of effective professional development (Joyce and Showers 1990):

Acquisition of knowledge. Before teachers can learn a skill, they must have basic knowledge of the skill and its value.

Modeling. Teachers benefit from seeing a new skill broken into its specific components, either through an instructor's demonstration or a written template.

Practice. Teachers need time to practice a new skill in a safe learning environment before applying it in their classrooms.

Observation. Teachers' practice of a new skill becomes more defined and sophisticated when they are observed by peers and receive feedback.

Coaching. Finally, as teachers prepare to apply the learned skill, a coach can monitor performance and provide encouragement.

Blending Online and On-Site Learning

Online learning can be integrated into each of these steps. For example, teachers could acquire knowledge of classroom management techniques online, which would then free an on-site trainer to devote more time to modeling the necessary skills and give teachers more time to practice in small groups. Or the process could work in reverse, with the leader of an on-site workshop on collaborative learning directing participants to model lesson plans online.

While on-site learning generally is stronger at providing constructive feedback, online programs provide many opportunities for practice, observation, and coaching. For example, teachers taking an online course on multiple intelligences could submit required lesson designs online for instructor feedback. At the same time, others enrolled in the course benefit from being able to study the various lesson designs as well as the feedback for each.

Principals choosing or designing professional development programs should consider how online learning might improve the programs. A possible scenario could have a school's teachers attending an on-site

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presentation on the concept and value of learning styles. After the presentation, teachers from different grade levels would form small teams and exchange e-mail addresses.

Each team member would then go online separately to study characteristics and review lesson plans for each type of learning style—kinesthetic, tactual, auditory, and visual. Each would develop a lesson plan geared to all four learning styles and e-mail it to the other team members. Each teacher would then supply feedback to the others, for example noting areas where a particular learning style may not have been adequately addressed. Finally, they would present their revised lesson plans online to the instructor, who would read and comment on them to all team members.

The Pros and Cons of Online Learning

This hybrid format of learning demonstrates both the efficiency and convenience of online learning, as well as the value of the on-site practice and peer interaction teachers need to successfully apply new skills. The advantage of online learning is that teachers can learn, study, or revisit material at any time. They also can immediately produce skill applications tailored to their needs, and read and receive more feedback.

Online learning helps those who cannot attend live presentations to acquire knowledge of a needed skill. For the present, however, the practice, observation, and coaching components of learning are better done in the real world of on-site training. As technology in schools is upgraded, more concrete options may present

themselves in the future. On the horizon are advanced digital video where skills can be modeled, as well as sophisticated technology that will permit more real-time interaction and feedback.

Until then, the key to online staff development is to continue to be creative about how participation can be enhanced in an online learning environment. Online program developers can mix and match the various learning components. Just as good cooks know when to use the microwave oven and when the old-fashioned model will do, good staff developers will know how and when to use each of these techniques to achieve the best results. □

Reference

Joyce, B.; and Showers, B. *Staff Development and Student Achievement*. White Plains, N.Y.: Longman, 1990.

What to Look for in Online Curricula

A large part of teachers' online learning may occur when they are trying to implement online learning in their own classrooms. Here are some helpful questions they should ask when reviewing available online curricula.

What professional development does the online curriculum offer? Some online curriculum units offer tutorials, online training, and access to telephone and e-mail help lines. However, professional development that focuses on the technology itself is not enough. It must also focus on content (background information about the concepts) and pedagogy (how to teach the content through inquiry-based activities).

How robust is the curriculum? Online curricula should have entry points that reflect content needed by students, pedagogy understood by the teacher, and technology available in the school, so that teachers later are able to weave in new and challenging content, pedagogy, and technology.

What are the technical requirements? Teachers should be careful to select online resources that match the level of the school's technology infrastructure. Even in districts with excellent technology and good technical support, teachers experience days when the network is behaving poorly or the server is down.

The best online curriculum units are designed to make use of technology only when the technology deepens the learning for students. Curriculum design should not be limited to classes with advanced technological capacity, but support those that have a wide range of technical capacity and knowledge.

Does the curriculum relate to students' experiences? While students can now learn about almost any topic using the Internet, teachers should be careful to anchor the initial investigations in students' own hands-on activities—using real materials that they can pick up and manipulate—so that the concepts involved become comprehensible

and meaningful and are not just abstractions. For instance, students could observe when tulips first bloom, and then use an online resource to see how that data fits into a larger set of data collected by classes across the country.

Does the curriculum guide students to educationally productive Internet resources? One of the most common arguments for connecting schools to the Internet emphasizes the benefit of giving students access to a vast fund of information. Too often, however, when students attempt to find information on the Internet, they find little that is relevant to their topic or appropriate to their level of knowledge. Good online curriculum points younger students to preselected Web sites that extend their level of understanding.

Source: The Digital Classroom: How Technology Is Changing the Way We Teach and Learn. David T. Gordon, ed. Cambridge, Mass.: Harvard Education Letter, 2000.

Why Teachers Don't Use Technology

Larry Cuban

Here's a puzzle for both those who cheer and question the use of new technologies in the classroom. Of every 10 teachers in this country, fewer than two are serious users of computers and other information technologies in their classrooms. In other organizations, computer use is ubiquitous. Not so in schools, where about half the teachers never use computers at all!

For experts, the answers to this puzzle seem obvious: insufficient preparation in universities; lack of specific technology training; too little time to learn; too many teachers suffering from "technophobia."

What's missing from these neatly packaged explanations, however, is one overlooked fact: Of those same 10 American teachers, about seven have computers at home and use them to prepare lessons, communicate with colleagues and friends, search the Internet, and conduct personal business.

It is this fact that makes the limited classroom use of computers even more puzzling. In examining other possible reasons, these five may provide an answer:

Contradictory advice from experts. When desktop computers first appeared in high schools in the early 1980s, corporate leaders urged teachers to make their students "computer literate." That meant learning how to write BASIC programs. By the late 1980s, however, BASIC had disappeared and freshly minted experts prodded teachers to focus on computer applications. By the mid-1990s, the prevailing wisdom had shifted again and teachers now were asked to integrate the new technologies into their daily classroom routines. Faced with ever-changing and contradictory advice, even teachers enthusiastic about using computers have largely chosen to ignore their classroom use.

Intractable working conditions. Although information technology has transformed corporate workplaces, teachers' schedules and working conditions have changed very little. A teacher typically has only one period a day set aside for planning lessons, seeing students, marking papers, making phone calls, previewing videos, securing a VCR or other equipment, and using the school's copy machines. There is simply no time to spare for computers.

Demands from others. Teachers are expected to know their subjects well; maintain order in their classrooms; report instances of abuse; spot signs of behavioral problems; be both friendly and demanding of their students; and be accountable for their students' performance in

meeting district and state standards. All of these take precedence over integrating technology into teachers' everyday classroom instruction.

Inherent unreliability of technology. Most schools can't afford professional on-site technical support. Even when they have coordinators and knowledgeable students to troubleshoot problems and do repairs, there are still frequent software glitches and servers that crash, torpedoing lessons again and again. Any wonder that even teachers enthusiastic about technology ask "What did I do to deserve this?"

Disrespect for teachers' opinions. Teachers seldom are consulted on which technologies to use with their students, or what machines and software they prefer. Instead, they are told to use computer labs or machines that suddenly appear in their classrooms, while being exhorted to take brand-new courses in technology.

Bashing teachers for not doing more with technology in their classrooms may be fashionable, but the obvious question that seldom gets asked is this: Why should very busy teachers who are genuinely committed to doing a good job listen to the experts' ever-changing advice on technology when they have to face unyielding working conditions, internal and external demands on their time and stamina, unreliable equipment, and disrespect for their opinions? □

Larry Cuban is a professor of education at Stanford University in California. His e-mail address is cuban@stanford.edu.

This article is adapted with permission from "The Technology Puzzle," published in Education Week, August 4, 1999.

Web Resources

Here are some free additional resources on online learning:

The National Staff Development Council outlines advantages and disadvantages of electronic learning programs in "Asking Tough Questions About Electronic Professional Learning," available online at www.nsdc.org/library/results/res5-00sparks.html.

The Northwest Educational Technology Consortium's Web site "classrooms@work/tools@hand" showcases three classroom projects that integrate technology, and provides the materials created and used by students and teachers. www.netc.org/classrooms@work/references/howto.html.

The American Association of School Librarians has developed

nine standards for students' information literacy. You can view them at www.ala.org/aasl/ip_nine.html.

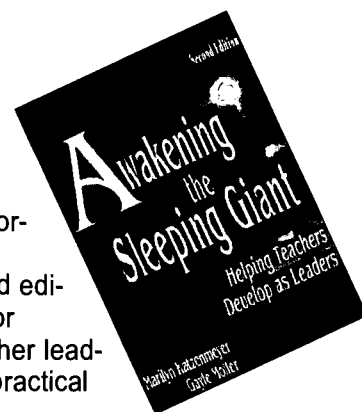
Education Week examined the growing number of teacher-preparation programs going online in "Teacher-Training Programs Turn to Cyberspace," February 14, 2001. You can access the article at www.edweek.com.

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Awakening the Sleeping Giant Helping Teachers Develop as Leaders Second Edition

by Marilyn Katzenmeyer and Gayle Moller

As the importance of teachers as leaders continues to grow, the demand for new information and inspiration on teacher leadership grows as well. Updated research, fresh examples, and the insights of over 5,000 teacher leaders have produced a revitalized edition of this definitive work on teacher leadership. Topics include: garnering support for teacher leadership; developing teacher leaders; building a culture that supports teacher leadership; and providing time for teacher leadership. The second edition also contains practical tips for educators at all levels and tools for self-assessment.



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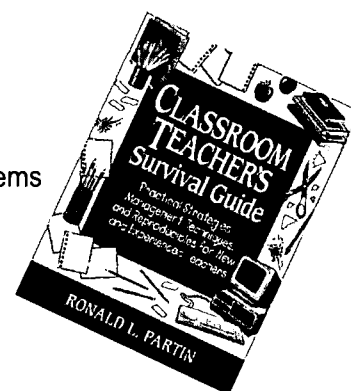
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Classroom Teacher's Survival Guide

by Ronald L. Partin

Here is a repertoire of ready-to-use tips and strategies for solving the everyday problems teachers face in organizing and managing the classroom, working with students and maintaining classroom control, interacting with parents and other adults in the school community, and coping with the daily stresses of teaching. The ideas and techniques in this book provide an unparalleled collection of proven, practical options for use as-is or for adaptation.



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